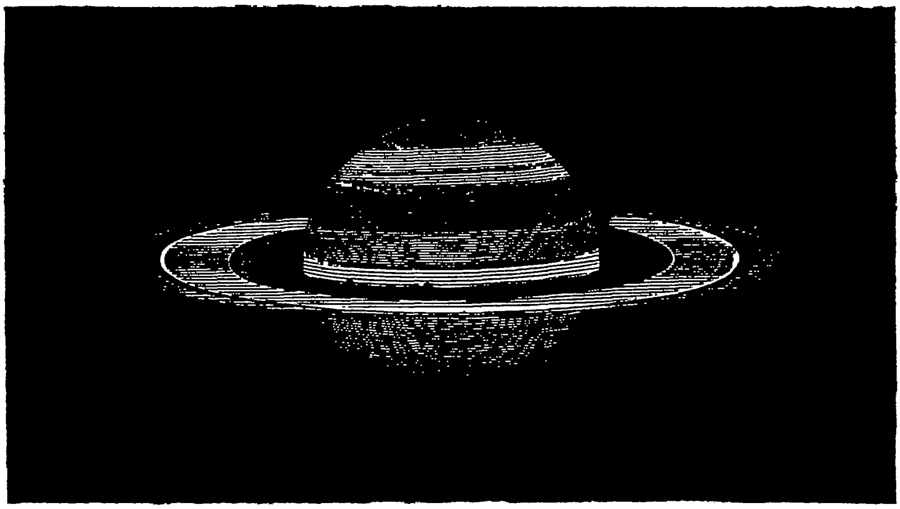
1861MNRAS..21R.177D

Observations of Saturn. By Warren De La Rue, Esq.

While observing *Saturn* during the last few weeks my attention has been attracted by the very irregular outline of the shadow crossing the planet's northern hemisphere just above the inner dark ring. I noticed this very distinctly on the night of the 7th instant, when my 13-inch Newtonian Equatoreal bore a power of 700 perfectly well. On that and other occasions I scrutinised the planet with a very beautiful achromatic by Dallmeyer (the late Mr. Ross's son-in-law) of $4\frac{1}{8}$ inches aperture, and I noticed the same appearance, so that astronomers possessing instruments of moderate size may observe the phenomenon provided they define perfectly. It is right to mention that the achromatic I refer to shows the 5th and 6th stars in the trapezium of *Orion*, and that on a clear night I even made out *Enceladus*, having first observed it, however, with the 13-inch reflector.



Cranford, April 11, 1861.

Photographs of the Total Eclipse.

By Warren De La Rue, Esq.

I am desirous of an opportunity of making known to Astronomers that some further delay will take place before copies of the two totality pictures can be printed off for circulation. In order to show the details of the protuberances it is necessary to enlarge the copies to about 9 inches in diameter, and from these to make a sufficient number of negatives to print the paper copies it is proposed to publish.

Downloaded from http://mnras.oxfordjournals.org/ at Lakehead University on March 18, 2015

© Royal Astronomical Society • Provided by the NASA Astrophysics Data System

1861MNRAS..21..178C

A few perfect positives were obtained soon after the return of the Himalaya Expedition from Spain, but they have been used up in making the engraved plates in the manner already made known to the Society. Since the size of the intended volume of Reports has been settled by the Astronomer Royal, several attempts have been made to procure the positive transparent enlarged copies, which will serve to make the negatives to print from, but hitherto without success, in consequence of the want of favourable weather. Up to yesterday all attempts to multiply copies have failed, for nothing short of an unobscured brilliant Sun will penetrate the dense original negatives so as to show the details of the protuberances; after spending 21 days in fruitless attempts I have come to the conclusion that it will be better to defer for a few weeks longer any further trials. An exposure of 40 to 45 seconds suffices in brilliant sunlight to produce a perfect picture, but an exposure of 15 minutes fails to produce a picture worthy of circulation when the Sun is obscured by the mists which have been prevalent.

Cranford, April 11, 1861.

On a Micrometric Diaphragm. By L. H. Casella.

The impulse given of late to the study of solar physics by the accurate series of observations on the Solar Spots by Mr. Carrington, Dr. Wolfe, Schwabe, and others, is greatly calculated to enlist the energies of amateurs, and many a series of diagrams of the Solar Disk might be constructed, were a simple and easy method of obtaining the position of those spots readily attainable.

About two years since I constructed for Mr. Birt a micrometric diaphragm, which appears so suitable for obtaining approximate positions of the spots as to induce me to submit it to the attention of the Society, especially as I consider it will enable an observer, from a series of observations only, to lay down diagrams of the spots from day to day, which may be compared at leisure, and from which several questions may be approximately answered by many in whose hands the employment of more delicate instruments or methods with the calculations attendant on them would in a great measure prevent.

The diaphragm is of glass, fitted to the focus of the eyepiece, and engraved with equidistant parallel lines dividing the field into about thirty-five divisions, each line terminating a little beyond the transverse diameter of the field, except every fifth line, which extends quite across the field.

Downloaded from http://mnras.oxfordjournals.org/ at Lakehead University on March 18, 2015

© Royal Astronomical Society • Provided by the NASA Astrophysics Data System